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TI Monoclonal T cell responses to two epitopes on a single immunogen controlled by two distinct genes
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AB The fine specificities of immune T cells were studied in a system in which the response to the antigen can involve 2 immune response (Ir) genes and 2 epitopes on a single synthetic polypeptide immunogen. The (BALB/c .times. SJL)F1 (H-2d .times. H-2s) mice can respond to the random **terpolymer** poly(Glu55,Lys36,Phe9) (GLPhe) through the H-2d-linked Ir gene (Ir-d) or through the complementing Ir gene (Ir-dxs), which controls the immune response to poly(Glu,Phe), epitopes that are present in GLPhe. Nine groups of monoclonal T cells were obtained from (H-2d .times. H-2s)F1 mice immunized with GLPhe. These groups were delineated by the differences in major **histocompatibility** complex (MHC)-restriction on antigen-presenting cells and the cross-reactions with poly(Glu60,Phe40) (GPhe) or poly(Glu51,Lys34,Tyr15) (GLT). A unique T cell line was discovered that can react to the 3 polymers (GLPhe, GLT, and GPhe) even though GLT and GPhe immune T cells do not normally show reciprocal cross-reactions. The monoclonal T cells retain helper activities in the Mishell-Dutton culture. Although the activation of T